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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/590,517	08/24/2006	Takashi Shimono	070120-0356174	1136

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EXAMINER

SANEI, MONA M

ART UNIT	PAPER NUMBER
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2882

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/590,517	Applicant(s) SHIMONO, TAKASHI	
	Examiner MONA M. SANEI	Art Unit 2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 August 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 9, 2009 has been entered.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the following must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

- A radius R that is larger than a pixel of an accumulated image (see claim 1).
- A radius R that is larger than a pixel of a transmission image (see claim 7).

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an

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application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claims 1-3, 6, and 7 are objected to because of the following informalities:
- In claim 1, line 16, “the cut-out image” should read - each of the cut-out images- .
 - In claim 7, lines 15-16, “the cut-out image” should read - each of the cut-out images- .
 - Claims 2, 3, and 6 are objected to by virtue of their dependencies.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-3, 6, and 7 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.
- The amendment to claim 1 introduced the limitation “the radius R is larger than a pixel of *the accumulated image*” in the last line. In paragraph 0016, the specification describes images that are cut out into a square shape with a virtual center, which is positioned on a circumference

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having a radius R from a center of the transmission image and in paragraph 0017, the specification describes calculating a brightness value B of each pixel of the obtained accumulated image and extracting pixels having a particular brightness value B. However, the specification, as originally filed, nowhere describes that the radius R is larger than a pixel of the accumulated image. Consequently, this limitation is not supported by the specification, as originally filed. This is a new matter rejection.

- Claim 7, introduced by the amendment filed June 9, 2009, includes the limitation “the radius R is larger than a pixel of *the transmission image*” in the last two lines. In paragraph 0016, the specification describes images that are cut out into a square shape with a virtual center, which is positioned on a circumference having a radius R from a center of the transmission image and in paragraph 0017, the specification describes calculating a brightness value B of each pixel of the obtained accumulated image and extracting pixels having a particular brightness value B. However, the specification, as originally filed, nowhere describes that the radius R is larger than a pixel of the transmission image. Consequently, this limitation is not supported by the specification, as originally filed. This is a new matter rejection.

- Claims 2, 3, and 6 are rejected by virtue of their dependencies.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-3, 6, and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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- In claim 1, line 14, the phrase “individual transmission images” is indefinite insofar as it is unclear whether the phrase is referring to new transmission images or to the plurality of transmission images recited in lines 4-5 of the claim.
- In claim 1, line 16, the phrase “the cut-out image” is indefinite insofar as it is unclear which of the cut-out images is being referenced.
- In claim 1, lines 17-18, the phrase “the transmission image” is indefinite insofar as it is unclear which of the transmission images is being referenced.
- In claim 2, lines 3-4, the phrase “an accumulated image” is indefinite insofar as it is unclear whether the phrase is referring to a new accumulated image or to the accumulated image recited in parent claim 1, line 16.
- In claim 7, line 14, the phrase “individual transmission images” is indefinite insofar as it is unclear whether the phrase is referring to new transmission images or to the plurality of transmission images recited in lines 4-5 of the claim.
- In claim 7, lines 15-16, the phrase “the cut-out image” is indefinite insofar as it is unclear which of the cut-out images is being referenced.
- In claim 7, line 17, the phrase “the transmission image” is indefinite insofar as it is unclear which of the transmission images is being referenced.
- In claim 7, lines 17-18, the phrase “the transmission image” is indefinite insofar as it is unclear which of the transmission images is being referenced.
- Claims 3 and 6 are rejected by virtue of their dependencies.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claim 4 is rejected under 35 U.S.C. 102(b) as being anticipated by Malamud (US 6483890).

- Regarding claim 4, Malamud teaches a system comprising:

an x-ray tomography (col. 1, lines 8-15) including;

an x-ray generator (10) configured to move a focal position and radiate x-rays toward a subject (14), the x-ray generator being fixed (col. 1, line 66-col. 2, line 6; col. 4, lines 22-39; see figure 2);

a planar x-ray image receiving element (16) configured to receive a plurality of transmission images of the subject formed by the x-rays radiated from the x-ray generator while the focal position is moved, the planar x-ray image receiving element being fixed (col. 3, lines 17-51; see figure 2); and

an image processing section (64) configured to create a tomographic image by processing the plurality of transmission images of the subject received by the x-ray image receiving element (col. 1, lines 8-15; col. 2, lines 7-12; col. 3, lines 31-51);

wherein the subject is fixed between the x-ray generator and the planar x-ray image receiving element (see figures 1 and 2), the x-ray generator has a radiation plane (see plane defined by 40 in figure 2) which is parallel to the planar x-ray image receiving element (see

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figure 2), and the focal position of the x-ray generator is rotatable on a circumference on the radiation plane (col. 4, lines 33-39; 40, figure 2); and

a stereoradioscopic image constructing section configured to create a stereoradioscopic image by processing the plurality of tomographic images obtained by the x-ray tomograph (64; col. 2, lines 48-58; col. 3, lines 51-60; col. 4, lines 62-67).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Malamud (US 6483890) as applied to claim 4 above, and further in view of Niwa et al. (JP 2003-024320).

- Regarding claim 5, Malamud teaches a system as recited above. Malamud further teaches that the stereoradioscopic image constructing section combines the plurality of tomographic images to create the stereoradioscopic image (col. 2, lines 48-58; col. 3, lines 51-60; col. 4, lines 62-67).

However, Malamud fails to teach that that the section corrects geometrical enlargement ratios of the images.

Niwa et al. teaches an enlargement ratio correcting means for correcting an enlargement ratio of an x-ray image (see translated abstract).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the stereoradioscopic image constructing section of Malamud to correct the

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geometrical enlargement ratios of the plurality of tomographic images before combining them to create the stereoradioscopic image as suggested by Niwa et al. since one would have been motivated to make such a modification to provide a more accurate and therefore meaningful stereoradioscopic image.

Response to Amendment

8. By virtue of the amendments to claims 1, 4, and 5, the claim objections set forth in the Final Rejection mailed March 16, 2009 have been overcome.

Response to Arguments

9. Applicant's arguments filed June 9, 2009 have been fully considered but they are not persuasive.

- In response to applicant's assertion that independent claim 4 recites similar patentable features as claim 1, examiner would like to point out that claim 4 does not recite the features recited in the last wherein clause of claim 1. Further, in response to applicant's assertion that claim 4 is patentable, examiner respectfully disagrees. As set forth above, claim 4 is anticipated by Malamud (US 6483890) under 35 U.S.C. 102(b). For these reasons, applicant's assertions are not persuasive and the rejection is being maintained.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MONA M. SANEI whose telephone number is (571)272-8657. The examiner can normally be reached on M-W 9-5.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward J. Glick can be reached on (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mona M Sanei/
Examiner, Art Unit 2882

/Chih-Cheng Glen Kao/
Primary Examiner, Art Unit 2882